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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/751,732	ELZUR, URI	
	Examiner	Art Unit	
	Kyung Hye Shin	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/2/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5-11-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application was filed on **1-2-2004**. Claims **1 - 46** are pending. Claims **1, 20, 21, 22, 32, 45** are independent.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1 - 13, 16 - 25, 29 - 31, 45, 46** are rejected under 35 U.S.C. 102(e) as being anticipated by **Culley et al. (XP002272246**: "Marker PDU Aligned Framing for TCP Specification" Internet Engineering Task Force Internet Draft).

Regarding Claim 1, Culley discloses a system for handling transport protocol segments (TPSes), comprising: a receiver that receives an incoming TPS (Culley pg 4, ll 8-12; pg 4. ll 13-16: receiver receives aligned transport segments), the incoming TPS comprising an aligned upper layer protocol (ULP) header and a complete ULP data unit (ULPDU) (Culley Figure 1; pg 4, ll 1-3: MPA creates a FPDU by pre-pending a header; pg 4, ll 4-6: single (complete (FPDU: aligned PDU) processed), wherein the receiver directly

places the complete ULPDU into a host memory. (Culley pg 4, ll 16-18; pg 4, ll 36-40: storing (host memory) the ULPDU in the right locations (direct placement) in the ULP buffers (memory, storage))

Regarding Claim 2, Culley discloses the system according to claim 1, wherein the receiver comprises a network subsystem and the host memory, wherein the network subsystem receives the incoming TPS and directly places data of the complete ULPDU into the host memory. (Culley pg 4, ll 36-40: storing (host memory) the ULPDU in the right locations (direct placement) in the ULP buffers (memory, storage))

Regarding Claim 3, Culley discloses the system according to claim 1, wherein the network subsystem comprises a network interface card (NIC) or a network controller. (Culley pg 3, l 14: network adapter (or network controller))

Regarding Claim 4, Culley discloses the system according to claim 1, wherein the ULPDU comprises a framing protocol data unit (FPDU). (Culley pg 3, ll 34-37: MPA protocol; pg 4, ll 1-3: MPA creates a FPDU by pre-pending a header (FPDU header))

Regarding Claim 5, Culley discloses the system according to claim 4, wherein the FPDU comprises a data unit created by a ULP using a marker-based ULPDU aligned (MPA) framing protocol. (Culley pg 3, ll 34-37: MPA (marker based alignment) protocol; pg 4, ll 1-3: MPA creates a FPDU by pre-pending a header (implied FPDU header),

inserting markers; pg 4, ll 14-16: receiver removes markers)

Regarding Claim 6, Culley discloses the system according to claim 1, wherein the aligned ULP header comprises an aligned FPDU header. (Culley pg 4, ll 1-3: creates a FPDU (frame aligned PDU) by pre-pending a header (FPDU header))

Regarding Claim 7, Culley discloses the system according to claim 6, wherein the aligned ULP header comprises the aligned FPDU header disposed adjacently to a TPS header of the TPS. (Culley pg 4, ll 1-3: creates a FPDU (frame aligned PDU) by pre-pending a header (FPDU header))

Regarding Claim 8, Culley discloses the system according to claim 1, wherein the aligned ULP header is disposed a preset length away from a TPS header of the TPS. (Culley pg 4, ll 1-3: pre-pending a header (implied length for header; alignment implies length from header) for ULPDU)

Regarding Claim 9, Culley discloses the system according to claim 1, wherein the aligned ULP header is disposed a particular length away from the TPS header, the particular length being related to information in a field in the TPS. (Culley pg 4, ll 1-3; pg 4, ll 13-16: pre-pending a header (implied length for header; alignment implies length from header) for ULPDU)

Regarding Claim 10, Culley discloses the system according to claim 9, wherein the field comprises a marker field. (Culley pg 4, ll 1-3: sender inserting markers; pg 4, ll 14-16: receiver removes markers)

Regarding Claim 11, Culley discloses the system according to claim 1, wherein the receiver is a flow-through receiver. (Culley pg 3, ll 8-12: TCP receiver)

Regarding Claim 12, Culley discloses the system according to claim 1, wherein the TPS comprises a transmission control protocol (TCP) segment. (Culley pg 3, ll 10-16: framing mechanism for TCP communications; pg 3, ll 2-3: marker based aligned communications on TCP; pg 4, ll 31-34: MPA aware TCP utilizing a TCP communications layer)

Regarding Claim 13, Culley discloses the system according to claim 12, wherein the TCP segment is part of a TCP byte stream. (Culley pg 3, ll 10-16: framing mechanism for TCP communications; pg 3, ll 2-3: marker based aligned communications using TCP; pg 4, ll 31-34: MPA aware TCP utilizing a TCP communications layer)

Regarding Claim 16, Culley discloses the system according to claim 1, wherein the incoming TPS comprises information that is used to place the complete ULPDU in the host memory. (Culley pg 4, ll 36-40: enables an implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers)

Regarding Claim 17, Culley discloses the system according to claim 1, wherein the receiver does not store partial cyclical redundancy check (CRC) values. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 18, Culley discloses the system according to claim 1, wherein the incoming TPS comprises an out-of-order incoming TPS. (Culley pg 5, ll 1-6: recovery of out-of-order ULPDUs processing)

Regarding Claim 19, Culley discloses the system according to claim 1, wherein the receiver does not store only a portion of the complete ULPDU. (Culley pg 4, ll 4-6: each TCP segment contains a FPDU (ULPDU); pg 4, ll 36-40: storage of ULPDUs (entire ULPDU) in right locations (direct placement))

Regarding Claim 20, Culley discloses a system for handling TPSes, comprising: a sender that sends a TPS, the sent TPS comprising an aligned ULP header and one or more complete ULPDUs. (Culley pg 4, ll 4-6: TCP segment contains single FPDU)

Regarding Claim 21, Culley discloses a method for handling TPSes, comprising: aligning an FPDU header in a known position in a TPS with respect to a TPS header; and placing a complete FPDU in the TPS. (Culley pg 4, ll 1-3: pre-pending a header to

create a FPDU; pg 4, ll 4-6: one FPDU, one TPS)

Regarding Claim 22, Culley discloses a method for handling TPSes, comprising: receiving an incoming TPS, the TPS comprising a complete FPDU and an FPDU header in a known position with respect to a TPS header. (Culley pg 4, ll 4-6: one FPDU one TPS; pg 4, ll 1-3: pre-pended header for FPDU)

Regarding Claim 23, Culley discloses the method according to claim 22, wherein the FPDU header is adjacent to the TPS header. (Culley Figure 1; pg 4, ll 4-6: one FPDU one TPS; pg 4, ll 1-3: pre-pended header for FPDU)

Regarding Claim 24, Culley discloses the method according to claim 22, further comprising: performing layer 2 (L2) processing, layer 3 (L3) processing and layer 4 (L4) processing on the incoming TPS via a network subsystem. (Culley pg 7, ll 15-17: TCP, IP, lower layer (L2) communications processing; TCP/IP processing (implies L3, L4 processing))

Regarding Claim 25, Culley discloses the method according to claim 24, further comprising: obtaining FPDU length information from the FPDU header. (Culley pg 4, ll 1-3: FPDU created by pre-pending a header to ULP)

Regarding Claim 29, Culley discloses the method according to claim 24, further

comprising: performing ULP processing on the incoming TPS via the network subsystem, wherein the L2 processing, the L3 processing, the L4 processing and the ULP processing can occur in parallel or in any order. (Culley pg 7, ll 15-17: TCP, IP, lower layer (L2) communications processing; TCP/IP processing (implies L3, L4 processing))

Regarding Claim 30, Culley discloses the method according to claim 29, wherein the L2 processing, the L3 processing, the L4 processing and the ULP processing do not occur in the listed order in a receiver. (Culley pg 7, ll 15-17: TCP, IP, lower layer (L2) communications processing; TCP/IP processing (implies L3, L4 processing); pg 5, ll 1-6: recovery of out-of-order ULPDUs processing)

Regarding Claim 31, Culley discloses the method according to claim 29, wherein the ULP processing, the L4 processing, the L3 processing and the L2 processing do not occur in the listed order in a transmitter. (Culley pg 7, ll 15-17: TCP, IP, lower layer communications processing; TCP/IP processing (implies L3, L4 processing); pg 5, ll 1-6: recovery of out-of-order ULPDUs processing)

Regarding Claim 45, Culley discloses a method for handling TPSes, comprising: (a) receiving an incoming TPS, the TPS comprising a complete FPDU and an FPDU header in a known position with respect to a TPS header (b) performing layer 2 (L2) processing on the incoming TPS; (c) performing layer 3 (L3) processing on the incoming

TPS; (d) performing layer 4 (L4) processing on the incoming TPS; and (e) performing ULP processing on the incoming TPS, wherein the performing of (b), (c), (d) and (e) occurs in any order. (Culley pg 7, ll 15-17: TCP, IP, lower layer (L2) communications processing; TCP/IP processing (implies L3, L4 processing))

Regarding Claim 46, Culley discloses the method according to claim 45, wherein at least two of the performing of (b), (c), (d) and (e) occurs concurrently. (Culley pg 7, ll 15-17: TCP, IP, lower layer (L2) communications processing; TCP/IP processing (implies L3, L4 processing))

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims **14, 15, 26 - 28, 32 - 44** are rejected under 35 U.S.C. 103 (a) as being unpatentable over **Culley** in view of **Pinkerton et al.** (US Patent No. **7,124,198**).

Regarding Claim 14, Culley discloses the system according to claim 1, wherein the receiver comprises a buffer. (Culley pg 4, ll 36-40: enables implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers) Culley does not

explicitly disclose to scale approximately linearly with a network speed or a network bandwidth. However, Pinkerton discloses wherein the size of the buffer does not scale approximately linearly with a network speed or a network bandwidth. (Pinkerton col 3, ll 52-67: bandwidth considerations processing ULPDUs; buffer size does not scale with network speed)

It would have been obvious to one of ordinary skill in the art to modify Culley to scale approximately linearly with a network speed or a network bandwidth as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3: "*... This effectively eliminates the need for an intermediate reassembly buffer in the performance path (i.e., the primary path in which the data is being received).* ...")

Regarding Claim 15, Culley discloses the system according to claim 1, wherein the receiver comprises a buffer. (Culley pg 4, ll 36-40: enables implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers) Culley does not explicitly disclose to scale with the number of connections. However, Pinkerton discloses wherein the size of the buffer does not scale with the number of connections. (Pinkerton col 3, ll 52-67: bandwidth considerations processing ULPDUs; buffer size not dependent on number of connections)

It would have been obvious to one of ordinary skill in the art to modify Culley to scale with the number of connections as taught by Pinkerton. One of ordinary skill in

the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 26, Culley discloses the method according to claim 25, further comprising: to copy data of the FPDU from the network subsystem to a host memory. (Culley pg 4, ll 36-40: enables an implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers) Culley does not explicitly disclose programming a direct memory access (DMA) engine. However, Pinkerton discloses programming a direct memory access (DMA) engine. (Pinkerton col 2, ll 10-13: DMA (direct memory access) protocol; col 3, ll 52-58; col 3, ll 63-67: direct data placement; maps incoming data to a specific buffer and offset; col 8, ll 1-3: direct placement information placed in framing header

It would have been obvious to one of ordinary skill in the art to modify Culley for a direct memory access (DMA) engine as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 27, Culley discloses the method according to claim 26, further comprising: to move FPDU through a cyclical redundancy checking (CRC) machine. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies

integrity and removes CRC) Culley does not explicitly disclose programming the DMA engine. However, Pinkerton discloses programming the DMA engine. (Pinkerton col 2, ll 10-13: DMA (direct memory access) protocol; col 3, ll 52-58; col 3, ll 63-67: direct data placement; maps incoming data to a specific buffer and offset; col 8, ll 1-3: direct placement information placed in framing header

It would have been obvious to one of ordinary skill in the art to modify Culley for programming the DMA engine as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 28, Culley discloses the method according to claim 22 wherein a TPS. (Culley pg 4, ll 4-6: one FPDU one TPS; pg 4, ll 1-3: pre-pended header for FPDU) Culley does not explicitly disclose a plurality of complete FPDUs. However, Pinkerton discloses wherein a plurality of complete FPDUs. (Pinkerton col 7, ll 30-32; col 7, ll 44-47: if multiple ULP PDUs fit within a segment; an integral number of ULP PDUs are put into a segment)

It would have been obvious to one of ordinary skill in the art to modify Culley for a plurality of complete FPDUs as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 32, Culley discloses a system for handling transport protocol segments (TPSes), comprising: a receiver, wherein the receiver receives an incoming TPS, the incoming TPS comprising an aligned upper layer protocol (ULP) header and a complete ULP data unit (ULPDU), wherein the receiver to place the complete ULPDU into a host memory. (Culley pg 4, ll 36-40: enables an implementation that stores the received ULPDUs in the right locations (direct placement) in ULP buffers) Culley does not explicitly disclose a DMA engine. However, Pinkerton discloses a DMA engine. (Pinkerton col 2, ll 10-13: DMA (direct memory access) protocol; col 3, ll 52-58; col 3, ll 63-67: direct data placement; maps incoming data to a specific buffer and offset; col 8, ll 1-3: direct placement information placed in framing header

It would have been obvious to one of ordinary skill in the art to modify Culley for a DMA engine as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 33, Culley discloses the system according to claim 32, wherein the receiver comprises a cyclical redundancy check (CRC) machine, and wherein the receiver uses the CRC machine once per ULPDU. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 34, Culley discloses the system according to claim 33, wherein the receiver comprises a non-flow-through network interface card (NIC), and wherein the CRC machine are part of the non-flow-through NIC. (Culley pg 3, l 14: network adapter (or network controller, NIC)) Culley does not explicitly disclose a DMA engine. However, Pinkerton discloses a DMA engine. (Pinkerton col 2, ll 10-13: DMA (direct memory access) protocol; col 3, ll 52-58; col 3, ll 63-67: direct data placement; maps incoming data to a specific buffer and offset; col 8, ll 1-3: direct placement information placed in framing header

It would have been obvious to one of ordinary skill in the art to modify Culley for a DMA engine as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 35, Culley discloses the system according to claim 34, wherein the non-flow-through NIC comprises a local memory. (Culley pg 3, l 14: network adapter (or network controller); pg 4, ll 36-40: enables an implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers (local memory))

Regarding Claim 36, Culley discloses the system according to claim 35, wherein the non-flow-through NIC performs a CRC calculation before or as the complete ULPDU is stored in the local memory. (Culley pg 5, ll 16-17: CRC check to increase data integrity;

pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 37, Culley discloses the system according to claim 35, wherein the non-flow-through NIC performs a CRC calculation after the complete ULPDU is stored in the local memory. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 38, Culley discloses the system according to claim 35, wherein the non-flow-through NIC performs a CRC calculation during a process by which the complete ULPDU is sent from the local memory to a host memory. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 39, Culley discloses the system according to claim 35, wherein the complete ULPDU comprises a marker-aligned protocol data unit. (Culley pg 4, ll 1-3: sender inserting markers; pg 4, ll 14-16: receiver removes markers)

Regarding Claim 40, Culley discloses the system according to claim 33, wherein the receiver comprises a flow-through NIC (Culley pg 3, ll 13-16: network adapter (NIC); direct data placement), and wherein the CRC machine are part of the flow-through NIC. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC) Culley does not explicitly disclose a DMA engine.

However, Pinkerton discloses a DMA engine. (Pinkerton col 2, ll 10-13: DMA (direct memory access) protocol; col 3, ll 52-58; col 3, ll 63-67: direct data placement; maps incoming data to a specific buffer and offset; col 8, ll 1-3: direct placement information placed in framing header

It would have been obvious to one of ordinary skill in the art to modify Culley for a DMA engine as taught by Pinkerton. One of ordinary skill in the art would have been motivated to employ the teachings of Pinkerton in order to eliminate the need for an intermediate reassembly buffer in the performance path. (Pinkerton col 2, l 67 - col 3, l 3)

Regarding Claim 41, Culley discloses the system according to claim 40, wherein the flow-through NIC comprises a buffer. (Culley pg 3, l 14: network adapter (or network controller); pg 4, ll 36-40: enables an implementation that stores the ULPDUs in the right locations (direct placement) in ULP buffers)

Regarding Claim 42, Culley discloses the system according to claim 41, wherein the non-flow-through NIC performs a CRC calculation before or as the complete ULPDU is stored in the buffer. (Culley pg 5, ll 16-17: CRC check to increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 43, Culley discloses the system according to claim 41, wherein the CRC calculation is a ULP CRC calculation. (Culley pg 5, ll 16-17: CRC check to

increase data integrity; pg 4, ll 14-16: verifies integrity and removes CRC)

Regarding Claim 44, Culley discloses the system according to claim 40, wherein the complete ULPDU comprises a marker-aligned protocol data unit. (Culley pg 4, ll 1-3: sender inserting markers; pg 4, ll 14-16: receiver removes markers)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyung Hye Shin whose telephone number is (571) 272-3920. The examiner can normally be reached on 9:30 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia L. Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyung Hye Shin
Examiner
Art Unit 2443

KHS
November 5, 2008

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2443